reagents employed. If a bsAb-F(ab')$_2$ derivative is given first, then a waiting time of 1-6 days before administration of the targetable conjugate would be appropriate. If an IgG-Fab' bsAb conjugate is the primary targeting vector, then a longer waiting period before administration of the targetable conjugate would be indicated, probably in the range of 3-15 days. If a bi-specific fusion protein, for example an anti-CEA Fab x anti-peptide scFv, is the primary targeting vector, a shorter waiting period before administration of the targetable conjugate would be indicated, probably in the range of 1-5 days.

In another embodiment, the present invention can be used in Boron Neutron Capture Therapy (BNCT) protocols. BNCT is a binary system designed to deliver ionizing radiation to tumor cells by neutron irradiation of tumor-localized boron-10 atoms. BNCT is based on the nuclear reaction which occurs when a stable isotope, isotopically enriched B-10 (present in 19.8% natural abundance), is irradiated with thermal neutrons to produce an alpha particle and a Li-7 nucleus. These particles have a path length of about one cell diameter, resulting in high linear energy transfer. Just a few of the short-range 1.7 MeV alpha particles produced in this nuclear reaction are sufficient to target the cell nucleus and destroy it. Success with BNCT of cancer requires methods for localizing a high concentration of boron-10 at tumor sites, while leaving non-target organs essentially boron-free. Compositions and methods for treating tumors in patients using pre-targeting bsAb for BNCT are described in [U.S.S.N. 09/205,243] U.S. Patent No. 6,228,362 and can easily be modified in accordance with the present invention. Additionally, other elements are suitable for neutron capture reactions. One example is uranium. Uranium, in large amounts, can be bound by naturally occurring chelating agents such as ferritin. Such strategies have been described in [U.S.S.N. **] U.S. Patent No. 6,228,362, are easily adaptable to the present invention and are hereby incorporated in their entirety by reference.

In another embodiment of the practice of the invention, the bsAb is administered prior to administration of a diagnostic agent which is associated with the targetable conjugate. After sufficient time has passed for the bsAb to target to the diseased tissue, the diagnostic agent is administered. Subsequent to administration of the diagnostic agent, imaging can be performed. Tumors can